

IN THE CLAIMS:

1 1. (Original) A metal vapor discharge lamp having an arc tube, wherein
2 the arc tube includes a container made of translucent ceramic, the container being
3 divided into a main tube portion and two narrow tube portions respectively extending out from
4 both ends of the main tube portion,
5 a discharge space is formed in the main tube portion with a light emission metal
6 being enclosed in the discharge space,
7 an electrode is deposited in each narrow tube portion, a coil being wound around
8 the electrode at an end thereof facing the discharge space,
9 an electrode supporting member is inserted in each narrow tube portion and
10 connected to the other end of the electrode,
11 the arc tube is sealed by a sealing material that is inserted into each space between
12 each electrode supporting member and each narrow tube portion, and
13 a length of each electrode is in a range of $(0.041P + 0.5)$ mm to $(0.041P + 8.0)$
14 mm inclusive, wherein "P" represents a lamp power in watts.

1 2. (Original) The metal vapor discharge lamp of Claim 1, wherein
2 a length of a portion of each electrode projecting from each narrow tube portion
3 into the discharge space is in a range of 3.0 mm to 6.5 mm inclusive.

1 3. (Original) The metal vapor discharge lamp of Claim 1, wherein
2 each electrode has heat conductivity of no smaller than 130 W/m*K, and
3 each electrode supporting member has heat conductivity of no larger than 100
4 W/m*K.

1 4. (Original) The metal vapor discharge lamp of Claim 1, wherein
2 each electrode contains tungsten and/or molybdenum, and
3 each electrode supporting member contains cermet.

1 5. (Original) The metal vapor discharge lamp of Claim 1, wherein
2 a length of each narrow tube portion is in a range of $(0.032P + 3.5)$ mm to
3 $(0.032P + 8.0)$ mm inclusive, wherein "P" represents a lamp power in watts.

1 6. (Original) The metal vapor discharge lamp of Claim 1, wherein
2 the sealing material is inserted into each narrow tube portion from an outer end
3 not facing the discharge space, and a length of the sealing material in each narrow tube portion is
4 in a range of 3.7 mm to 5.5 mm inclusive.

1 7. (Original) The metal vapor discharge lamp of Claim 1, wherein
2 the main tube portion and the narrow tube portions are formed in one piece.

1 8. (Original) A metal vapor discharge lamp having an arc tube, wherein
2 the arc tube includes a container made of translucent ceramic, the container being
3 divided into a main tube portion and two narrow tube portions respectively extending out from
4 both ends of the main tube portion,
5 a discharge space is formed in the main tube portion with a light emission metal
6 being enclosed in the discharge space,
7 an electrode is deposited in each narrow tube portion, a coil being wound around
8 the electrode at an end thereof facing the discharge space,

an electrode supporting member is inserted in each narrow tube portion and connected to the other end of the electrode,

the arc tube is sealed by a sealing material that is inserted into each space between each electrode supporting member and each narrow tube portion,

a length of each electrode is in a range of $(0.041P + 0.5)$ mm to $(0.041P + 8.0)$ mm inclusive, wherein "P" represents a lamp power in watts, and

the lamp power is in a range of 70 watts to 400 watts inclusive.

9. (Original) A metal vapor discharge lamp having an arc tube, wherein

the arc tube includes a container made of translucent ceramic, the container being divided into a main tube portion and two narrow tube portions respectively extending out from both ends of the main tube portion,

a discharge space is formed in the main tube portion with a light emission metal being enclosed in the discharge space,

an electrode is deposited in each narrow tube portion, a coil being wound around the electrode at an end thereof facing the discharge space,

an electrode supporting member is inserted in each narrow tube portion and connected to the other end of the electrode,

the arc tube is sealed by a sealing material that is inserted into each space between each electrode supporting member and each narrow tube portion, and

a length of each narrow tube portion is in a range of $(0.032P + 3.5)$ mm to $(0.032P + 8.0)$ mm inclusive, wherein "P" represents a lamp power in watts.

1 10. (Original) A metal vapor discharge lamp having an arc tube, wherein
2 the arc tube includes a container made of translucent ceramic, the container being
3 divided into a main tube portion and two narrow tube portions respectively extending out from
4 both ends of the main tube portion,
5 a discharge space is formed in the main tube portion with a light emission metal
6 being enclosed in the discharge space,
7 an electrode is deposited in each narrow tube portion, a coil being wound around
8 the electrode at an end thereof facing the discharge space,
9 an electrode supporting member is inserted in each narrow tube portion and
10 connected to the other end of the electrode,
11 the arc tube is sealed by a sealing material that is inserted into each space between
12 each electrode supporting member and each narrow tube portion, and
13 a length of each narrow tube portion is in a range of $(0.032P + 3.5)$ mm to
14 $(0.032P + 6.0)$ mm inclusive, wherein "P" represents a lamp power in watts.

1 11. (Original) The metal vapor discharge lamp of Claim 10, wherein
2 the light emission metal enclosed in the main tube portion contains cerium.

1 12. (Original) The metal vapor discharge lamp of Claim 9, wherein
2 the sealing material is inserted into each narrow tube portion from an outer end
3 not facing the discharge space, and a length of the sealing material in each narrow tube portion is
4 in a range of 3.7 mm to 5.5 mm inclusive.

1 13. (Original) The metal vapor discharge lamp of Claim 9, wherein
2 a thickness of each narrow tube portion is no smaller than 1.15 times a thickness
3 of the main tube portion.

1 14. (Original) The metal vapor discharge lamp of Claim 9, wherein
2 each electrode supporting member is made of cermet.

1 15. (Original) The metal vapor discharge lamp of Claim 9, wherein
2 the main tube portion and the narrow tube portions are formed in one piece.

1 16. (Original) The metal vapor discharge lamp of Claim 9, wherein
2 the lamp power is in a range of 70 watts to 360 watts inclusive.

1 17. (Original) A lighting apparatus that includes a main body, a metal vapor
2 discharge lamp disposed in the main body, and a lighting circuit apparatus connected to the metal
3 vapor discharge lamp, the metal vapor discharge lamp having an arc tube, wherein
4 the arc tube includes a container made of translucent ceramic, the container being
5 divided into a main tube portion and two narrow tube portions respectively extending out from
6 both ends of the main tube portion,

7 a discharge space is formed in the main tube portion with a light emission metal
8 being enclosed in the discharge space,

9 an electrode is deposited in each narrow tube portion, a coil being wound around
10 the electrode at an end thereof facing the discharge space,

11 an electrode supporting member is inserted in each narrow tube portion and
12 connected to the other end of the electrode,

the arc tube is sealed by a sealing material that is inserted into each space between each electrode supporting member and each narrow tube portion, and a length of each electrode is in a range of $(0.041P + 0.5)$ mm to $(0.041P + 8.0)$ mm inclusive, wherein "P" represents a lamp power in watts.

18. (Original) A lighting apparatus that includes a main body, a metal vapor discharge lamp disposed in the main body, and a lighting circuit apparatus connected to the metal vapor discharge lamp, the metal vapor discharge lamp having an arc tube, wherein

the arc tube includes a container made of translucent ceramic, the container being divided into a main tube portion and two narrow tube portions respectively extending out from both ends of the main tube portion,

a discharge space is formed in the main tube portion with a light emission metal being enclosed in the discharge space,

an electrode is deposited in each narrow tube portion, a coil being wound around the electrode at an end thereof facing the discharge space,

an electrode supporting member is inserted in each narrow tube portion and connected to the other end of the electrode,

the arc tube is sealed by a sealing material that is inserted into each space between each electrode supporting member and each narrow tube portion, and

a length of each narrow tube portion is in a range of $(0.032P + 3.5)$ mm to $(0.032P + 8.0)$ mm inclusive, wherein "P" represents a lamp power in watts.